

## Sebastian van Delden, Ph.D.

### Curriculum Vitae

The College of Charleston, 66 George St, Charleston, SC 29424  
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<http://blogs.cofc.edu/sebastian/>

### EMPLOYMENT

#### THE COLLEGE OF CHARLESTON

Charleston, SC 29424

##### *School of Sciences and Mathematics*

|              |              |
|--------------|--------------|
| Dean         | 2020-Present |
| Interim Dean | 2018-2020    |

##### *Department of Computer Science*

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| Department Chair and Professor of Computer Science | 2015-2018 |
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#### SOUTHEASTERN LOUISIANA UNIVERSITY

Hammond, LA 70402

##### *Department of Computer Science and Industrial Technology*

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| Department Head                         | 2012-2015 |
| Professor of Computer Science           | 2014-2015 |
| Associate Professor of Computer Science | 2012-2014 |

#### UNIVERSITY OF SOUTH CAROLINA UPSTATE

Spartanburg, SC 29303

##### *Division of Mathematics and Computer Science:*

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| Associate Professor of Computer Science | 2009 - 2012 |
| Assistant Professor of Computer Science | 2004 -2009  |

##### *Office of Sponsored Awards and Research Support:*

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| Director of Research ( <i>for ALL academic units</i> )               | 2010 - 2012 |
| Director of Undergraduate Research ( <i>for ALL academic units</i> ) | 2007 - 2010 |

### EDUCATION

#### University of Central Florida, Orlando, FL

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| Doctor of Philosophy / Computer Science             | 2001-2003 |
| Masters of Science / Computer Science               | 1999-2001 |
| Bachelors of Science / Computer Science (cum laude) | 1995-1999 |

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## ADMINISTRATIVE EXPERIENCE

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### AS INTERIM DEAN AT THE COLLEGE OF CHARLESTON:

- Oversee six academic departments (Biology, Chemistry & Biochemistry, Geology and Environmental Sciences, Computer Sciences, Physics & Astrophysics, and Mathematics) with academic programming offered in six separate physical locations/facilities and auxiliary services such as the Lowcountry Hall for Science and Math, the SC Space Grant program, the SC Alliance for Minority Participation (SCAMP) programs, and others.
  - 15 undergraduate degree programs and 6 graduate degree programs
  - 130 full time faculty, 250 total instructors, and approximately 2000 students
- Serve on the Hollings Marine Lab Executive Board and the President's proxy on SC Sea Grant Board of Directors.
- Year over year increased philanthropic support across SSM from \$277k in FY18 to \$401k in FY19 to \$3.5 million for FY20.
- New Academic Programs, Initiatives and Accomplishments:
  - Bachelor of Science in Systems Engineering and a Bachelor of Science in Electrical Engineering: Spearheaded this effort with Narayanan Kuthirummal that brought engineering to the College of Charleston!
  - MOUs
    - Established a Biology/Nursing Dual Degree Articulation Program with The Mary Black School of Nursing at USC Upstate. Co-led this effort with Karen Eippert and Seth Pritchard.
    - Signed MOU with Clemson University that establishes a pathway for CofC Systems Engineering graduates to matriculate into Clemson's MEngr in Electrical Engineering program in Charleston.
    - Worked with Cass Runyan, Tim Callahan, and Tara Scozarro to establish an Educational Partnership Agreement with the Naval Information Warfare Center in Charleston.
    - Worked with the SC Aquarium and the County of Charleston to establish the Center of Resilience Excellence (CORE) SC that provides a nexus of support to work in the areas of Water, Energy, Connectivity, Agriculture, and Natural Disasters.
  - Established a shuttle service program that connects the Marine Biology Program to main campus, and spearheaded the implementation of a camera system to improve security at the Grice Marine Labs at Fort Johnson.
  - Established the SSM Diversity Enhancement Fund in FY20, securing \$170k to date.
  - Established an SSM Student Ambassador program, a weekly "STEM Tour and Talk with the Dean" program, and an active social media presence to raise SSM awareness among prospective students and other constituencies.
  - Established an annual SSM Faculty and Staff Back-to-School Convocation.
  - Reimagined the SSM Board of Advocates.
  - Established an Academic Director for the Stono Preserve in order to better utilize this environmental campus by CofC faculty and students.
  - Established a new annual SSM Faculty Award that recognizes excellence in student research mentorship.
  - Established a new Math Placement Program for all students. Co-led this initiative with Liz Jurisich and Kate Owens.

- Assisted Tim Callahan, Barbara Beckingham and others in the establishment of a new Minor in Geoinformatics.
- Day to Day duties: Supervise office staff, review promotion/tenure/3rd-year, sabbatical, and post-tenure review portfolios, manage budgets, build industry partnerships, recruit students, steward donor relationships, etc.

### **AS DEPARTMENT CHAIR AT THE COLLEGE OF CHARLESTON:**

- Oversee five degree programs in the department which has approximately 550 students, 15 faculty members, and two full time support staff.
  - Undergraduate: Computer Science (BS and BA), Computer Information Systems, Computing in the Arts, Data Science
  - Masters in Computer and Information Sciences
- Helped coordinate 3,000 sf expansion to include research labs followed by a 2500 sf expansion to establish a student innovation center at Harbor Walk East.
- Established a co-location space called The COMPASS in which large companies have established a physical presence inside the department.
  - The initial companies moving in were Boeing, Bosch, Mercedes-Bens Vans, Benefitfocus, and Booz Allen Hamilton.
- Assist in coordinating SACSCOC assessment and other accreditation efforts for all programs in department.
  - Leading ABET CAC reaffirmation of accreditation effort in 2018.
- New Academic Programs:
  - Along with Paul Anderson, took lead role in establishing a new Master's degree in Data Science and Analytics.
  - Played key role in leading curriculum changes to the Computer Science degree to conform to new ABET accreditation requirements.
  - Helped establish a new Computing in the Arts – Digital Media concentration.
  - Helped established a new Computing in the Arts – Game Programming and Interaction concentration and a new Computing in the Arts – Digital Media concentration.
  - Helped introduce new coursework in Computing in the Arts, Cyber Security, Internships, Mobile Application Development, and others.
  - Helped restructure Data Science and Computer Information Systems undergraduate curricula.
  - Helped introduce two new Graduate Certificate programs in Software Engineering and Information Systems.
- Day to Day duties: Supervise office staff, lead promotion and tenure committee, complete annual evaluations, coordinate assessment efforts and curriculum issues, meet perspective students and their parents, assist in marketing efforts and outreach activities, coordinate faculty/staff searches/meetings, manage budget, build industry partnerships, etc.

### **AS DEPARTMENT HEAD AT SOUTHEASTERN:**

- Oversee six degree programs in the department which has approximately 1,100 students and 30 faculty members.
  - Computer Science, Information Technology, Engineering Technology, Industrial Technology (BS and AAS), and Occupational Safety, Health and Environment
- Coordinated three successful ABET/ATMAE reaccreditation processes:
  - Computer Science (BS), Information Technology (BS), ABET-CAC, Fall 2012
  - Industrial Technology (BS and AAS), ATMAE, Spring 2013

- Engineering Technology (BS), ABET-ETAC, Fall 2014
- Assisted the Dean and the President in securing state funding to build a new Computer Science and Industrial Technology Building (\$22,000,000) in 2015. Construction was completed in 2017.
- Partnered with Career Services to introduce a technology-focused career fair (Tech-Connect) in the Spring semesters.
  - Spring 2014 stats: 23 employers, 250 students, 39 afternoon interviews
- Introduced a departmental “Freshmen Convocation” event early in the Fall semester to help improve retention.
- Assist in coordinating SACSCOC assessment and other efforts for all programs in department.
- New Academic Programs:
  - Wrote the proposal to establish the Bachelor of Science in Information Technology degree program which received the full six years of ABET accreditation.
  - Established the Accelerated Computing Engagement (ACE) program – a three-year pathway to receiving the Bachelors in Information Technology that includes a practical internship experience - in order to meet industry demands for computing professionals in the region.
  - Assisted in introducing a Pre-MBA concentration in the Computer Science degree.
  - Assisted in introducing three OSHE Minors.
- Day to Day duties: Supervise office staff, lead promotion and tenure committee, complete annual evaluations, coordinate assessment efforts and curriculum issues, meet perspective students and their parents, lead all marketing efforts and outreach activities, coordinate faculty/staff searches, etc.

### **AS DIRECTOR OF RESEARCH AT USC UPSTATE:**

- Coauthored and presented the proposal which established the Office of Sponsored Awards and Research Support (2007).
- Achieved 100% participation of all campus departments in programs offered.
- Developed and implemented *new* internal funding programs, including: a “Scholarly Start-up Package” program for new tenure-track hires, a research/teaching assistant grant program, a faculty research release time program, and a Research Experience Program for USC Upstate students with the Steadman Hawkins Orthopaedic Research Foundation of the Carolinas.
- Introduced the USC Upstate Undergraduate Research Journal. Volume 1, Spring 2008; Volume 2, Fall 2009; Volume 3, Fall 2010; Volume 4, Fall 2011.
- Introduced a YouTube Research Channel. Professionally filmed/edited short videos of undergraduate research
- Introduced the Year In Review annual publication. An annual overview of all faculty scholarly work campus-wide.
- Significantly Expanded the Annual Research Symposium. Substantially expanded to include numerous other colleges/universities, secured external monies, hosted the event at neutral non-academic research institutions, grouped talks into specialized sessions, included creative performances.
- Lobby for and was able to established a new staff position, entitled Research Associate, who directly reports to the Director of Research.

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**SCHOLARSHIP**

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**PEER-REVIEWED, PUBLISHED ARTICLES (TECHNICAL):**

- Megan Landau and Sebastian van Delden. 2017. *A System Architecture of Hands-Free UAV Drone Control Using Intuitive Voice Commands*. Short Paper in the Companion Proceedings of the **12th Annual International Conference on Human Robot Interaction**. HRI2017. Vienna, Austria. March 6-9, 2017.
- Sebastian van Delden, Grace Chenevert, and John Burris. 2015. *Finger Tip Tracking for Manipulator Jogging using the Kinect*. In Proceedings of the **7th Annual IEEE International Conference on Technologies for Practical Robot Applications**. TePRA 2015. Boston, MA. May 11-12, 2015
- Kuo-Pao Yang, Sebastian van Delden, and Elyse Bond. 2014. *KinectFlix: A Hand Gesture Recognition Application for Kinect to Watch Netflix*. **World Journal of Computer Application and Technology (WJCAT)**, ISSN 2331-4982, 2(1): 6-9, January, 2014.
- Sebastian van Delden, Carlos Rosario, Gregory Hess, and Michael Umrysh. 2012. *Pick-and-Place Application Development using Voice and Visual Commands*. **Industrial Robot: An International Journal**. Volume 39, Number 6, Pp 592-600. Emerald Publishers.
- Sebastian van Delden and Andrew Whigham. 2012 - *A Bluetooth-based Architecture for Android Communication with an Articulated Robot*. In Proceedings of the **International Conference on Collaboration Technologies and Systems - Collaborative Robotics and Human Robot Interaction**. Pages 104-109. Denver, Colorado. May 21-25, 2012.
- Sebastian van Delden and Michael Umrysh. 2011. *Visual Detection of Objects in a Robotic Work Area using Hand Gestures*. In Proceedings of the **IEEE International Symposium on Robotics and Sensor Environments**, Montreal, Canada, Pp 237-243. September 17-18, 2011.
- Sebastian van Delden and Nicole Tobias. 2010. *A Novel Approach to 3D Contour Recovery using Structured Light Mounted to a Robotic Manipulator*. In Proceedings of the **IASTED International Conference on Robotics and Applications**, Cambridge, MA, Pp 167-173, Nov 1-3, 2010.
- Sebastian van Delden and Frank Hardy. 2009. *Robotic Eye-in-hand Calibration in an Uncalibrated Environment*. In the **Journal on Systemics, Cybernetics and Informatics**. vol 6(6). Pp 67-72.
- Sebastian van Delden and Benjamin Overcash. 2008. *Towards Voice-Guided Robotic Manipulator Jogging*. In Proceedings of the **12th World Multiconference on Systemics, Cybernetics and Informatics**. vol 3. Pp 138-144. Orlando, Florida. July 2008.
- Sebastian van Delden. 2007. *Problematic Syntactic Patterns*. **Language and Computers, Volume 60**. "Corpus Linguistics Beyond the Word: Corpus Research from Phrase to Discourse." Edited by Eileen Fitzpatrick. Rodopi Publishers. Pp 59-71.
- Sebastian van Delden, Ricky Farr, and Seth Hensley. 2007. *An Automated Camera Orientation Recovery Algorithm for an Eye-in-Hand Robotic Manipulator*. In Proceedings of the **5th IEEE International Symposium on Robotic and Sensors Environments**. Pp 1-6. Ottawa, Canada. October 12-13, 2007.
- Sebastian van Delden. 2006. *Improving Inter-Level Communication in Cascaded Finite-State Partial Parser*. **Lecture Notes in Artificial Intelligence**. Selected Papers from the 5th International Workshop on Finite State Methods in NLP. Springer. 4002. Pp 259-270.
- Sebastian van Delden. 2006. *Constructing a Simple Visually-Guided Robotic Part-Grasping System with Off-the-Shelf Components*. In Proceedings of the **18th IEEE International Conference on Tools with Artificial Intelligence**. Pp 211-216. Washington, D.C. November 13-15, 2006.
- Sebastian van Delden. 2005. *Complement Identification Algorithms for Partial Parsers*. **International Transaction on Computer Science and Engineering**. vol 9(1). Pp 210-220. June 2005.

- Sebastian van Delden. 2005. *Simple but Useful Algorithms for Identifying Noun Phrase Complements of Embedded Clauses in a Partial Parse*. In Proceedings of the **10<sup>th</sup> International Conference on Applications of Natural Language to Information Systems**. Pp 357-361. Alicante, Spain.
- Sebastian van Delden and Fernando Gomez. 2004. *Cascaded Finite-State Partial Parsing: A Larger-First Approach*. **Current Issues in Linguistic Theory (CILT)**. Edited by N. Nicolov, K. Botcheva, G. Angelova, and R. Mitkov. vol 260, Pp 402-413. John Benjamin Publishers, Amsterdam.
- Sebastian van Delden, David Bracewell, and Fernando Gomez. 2004. *Supervised and Unsupervised Automatic Spelling Correction Algorithms*. In Proceedings of the **2004 IEEE International Conference on Information Reuse and Integration**. Las Vegas, Nevada. Pp 530-535. November 8-10, 2004.
- Sebastian van Delden and Fernando Gomez. 2004. *A Finite-State Comma Tagger*. **International Journal of Artificial Intelligence Tools**. vol 13(3). Pp 449-468. World Scientific Publishing.
- Sebastian van Delden and Fernando Gomez. 2004. *Retrieving NASA Problem Reports: A Case Study in Natural Language Information Retrieval*. **Journal of Data and Knowledge Engineering**. Vol 48(2). Pp 231-246. Elsevier Science.
- Sebastian van Delden and Fernando Gomez. 2003. *Extending a Finite State Approach for Parsing Commas in English to Dutch*. **Language and Computers: Studies in Practical Linguistics**. Edited by Charles F. Meyer and Nelleke Oostdijk. vol 27, Pp 25-38.
- Sebastian van Delden and Fernando Gomez. 2003. *A Larger-First Approach to Partial Parsing*. In Proceedings of the **2003 International Conference on Recent Advances in Natural Language Processing**. Pages 124-131. Borovets, Bulgaria, September 10-12, 2003.
- Sebastian van Delden. 2003. *Learning WordNet-Based Classification Rules*. In Proceedings of the **2003 AAAI Spring Symposium on Human Interaction with Autonomous Systems in Complex Environments**. Pp 203-208. ISBN 1-57735-181-9. Stanford University, Stanford, California, March 24-26, 2003.
- Sebastian van Delden. 2002. *A Hybrid Approach to Pre-Conjunct Identification*. In **Proceedings of the 2002 Language Engineering Conference**. Pp 72-77. University of Hyderabad, India. December 13-15, 2002.
- Sebastian van Delden and Fernando Gomez. 2002. *Combining Finite State Automata and a Greedy Learning Algorithm to Determine the Syntactic Role of Commas*. In **Proceedings of the 14th IEEE International Conference on Tools with Artificial Intelligence**. Washington, D.C. Pp 293-301. November 4-6, 2002.
- Sebastian van Delden and Fernando Gomez. 2002. *Retrieving NASA Problem Reports with Natural Language*. In **Proceedings of the 7th International Workshop on Applications of Natural Language to Information Systems**. Pp 150-159. Stockholm, Sweden. June 26-27, 2002.

### **PEER-REVIEWED, PUBLISHED ARTICLES (PEDAGOGY):**

- Sebastian van Delden and Kuo-Pao Yang. 2014. *Robotics Summer Camps as a Recruiting Tool: A Case Study*. In the **Journal of Computing Science in Colleges**. Papers presented at the CCSC – Mid South Conference in Memphis, TN. Volume 29, Number 5, Pages 14-22, May 2014.
- Sebastian van Delden. 2012. *A Circular Model for Framing the Undergraduate Research Experience*. In the **Council of Undergraduate Research Quarterly**. Volume 33, Issue 1, Page 40-52.
- Sebastian van Delden. 2010. *Getting Your Robotic Arms around Computing Curricula*. In the **Journal of Computers in Education**. Published by the American Society for Engineering Education. Vol 1 (4). Pp 91-101. October-December issue.
- Sebastian van Delden. 2010. *Computer Science Meets Industrial Robotics: A Visual Servoing Project for a Computer Vision Course*. In the **Journal of Computing Sciences in Colleges**. vol 25(6). Pp 85-92. Select papers from the 15<sup>th</sup> Annual Northeast Meeting of the Consortium for Computing Sciences in Colleges. Hartford University. April 2010.

- Sebastian van Delden. 2010. *Industrial Robotic Game Playing: An AI Course*. In the **Journal of Computing Sciences in Colleges**. vol 25(3). Pp 134-142. Select papers from the 25<sup>th</sup> Annual Eastern Meeting of the Consortium for Computing Sciences in Colleges. Villanova University. January 2010.
- Sebastian van Delden and Wei Zhong. 2008. *Effective Integration of Autonomous Robots into an Introductory Computer Science Course: A Case Study*. **Journal of Computing Sciences in Colleges**. Select papers from the Sixth Meeting of the Consortium for Computing Science in Colleges. vol 23(4), Pp. 10-19, April 2008.

## **UNDERGRADUATE RESEARCH ASSISTANT PRESENTATIONS/POSTERS:**

- Grace Chenevert. 2014. *Finger Tip Tracking using the Microsoft Kinect*. Presentation at the University of Louisiana System Academic Summit, Lafayette, LA. April 12, 2014.
- Tanner Rhodus. 2012. Presentation of Microsoft Kinect research work to ABET Reaccreditation team during site visit.
- Michael Umrysh and Sebastian van Delden. 2011. *Initial Steps Towards Using Hand Gestures to Control a Robotic Arm*. Presented at the **Seventh Annual USC Upstate Research Symposium**. April 15, 2011. \*\*\*\***Best Paper Award for "Math and Computer Science"**.
- Nicole Hodge and Sebastian van Delden. 2010. *Contour Recovery using Structured Light mounted to a Robotic Manipulator*. Poster at **Discovery Day 2010, USC Columbia**. April 23, 2010. \*\*\*\***Best Poster Award for "Computer Science and Engineering"**
- Nicole Hodge, Robert Mahmoudishad, Mark Parrish, and Sebastian van Delden. 2009. *A Novel Robotic Approach to Contour Recovery using Structured Light*. Presented at the **Fifth Annual USC Upstate Research Symposium**. March 27, 2009.
- Derrick Thompson, Jose Reyes, and Sebastian van Delden. Spring 2007. *Vision-Based Robots Playing Pong*. Presented at the **Third Annual USC Upstate Research Symposium**. April 6, 2007.
- William Bittle, Sayed Shahabi, Ashley Bryant and Sebastian van Delden. *WOODBURNER: An Automated Robotic Character Etching System*. Poster at the **Second Annual USC Upstate Research Symposium**. April 21, 2006.
- Jacob Landon, Stephen van Dahm, Sebastian van Delden, Ed Nagelhout. *Towards a Syntactically and Semantically Enhanced Corpus of Direct Mail Letters*. **First Annual USC Upstate Research Symposium**. University of South Carolina Upstate. Spartanburg, South Carolina. April 22, 2005.
- Shea Menge, Sebastian van Delden, and Ed Nagelhout. *An Online Search Tool for a Philanthropic Discourse Corpus*. **First Annual USC Upstate Research Symposium**. University of South Carolina Upstate. Spartanburg, South Carolina. April 22, 2005.

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## **SCHOLARLY SERVICE**

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- Conference Paper Reviewer for HRI2017. Conference Paper Reviewer (2006-2012): The IEEE International Conference on Robotics in Sensor Environments, the IEEE/RSJ International Conference on Intelligent Robots and Systems; the Annual Consortium for Computing Sciences in Colleges; the World Multi Conference on Systemics, Cybernetics, and Informatics; the 15<sup>th</sup> IEEE International Conference on Tools with Artificial Intelligence, and the International Conference on Information and Communication Technologies and Applications.
- Journal Paper Reviewer (2006-2012) for the International Journal of Artificial Intelligence Tools; the International Journal of Computer Mathematics; the International Journal of Artificial Intelligence in Medicine.
- Grant Reviewer for the *USC Columbia* Magellan Scholars Program (2009-2012); Health Initiative Grant Applications for College of Arts and Sciences (2008).

- Miscellaneous: Chaired Technical Sessions at: the IEEE International Symposium on Robotic and Sensor Environments, the 6<sup>th</sup> Annual Consortium for Computing Sciences in Colleges Mid-South Conference, 18<sup>th</sup> IEEE International Conference on Tools with Artificial Intelligence; Wrote book review of Data Structures and Other Objects Using C++. Third Edition. Written by Main, published by Addison Wesley, 2005.
- Robotics Industry Association Member (2010-2012). Membership sponsored by Stäubli.

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### FORMAL INDUSTRY TRAINING AND RESEARCH

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- Vehicle-Configuration Expert-Systems Research Work, BMW's IT Research Center, 2007-2008.
- Cognex Insight Vision Systems Workshop: Standard and Advanced. Natick, Massachusetts. February 2010.
- Fanuc Operations and Programming course, Chicago, Illinois. 2010.
- V+ Training Program. Stäubli Corporation. Duncan, South Carolina. 2005.

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### PRIOR TO BECOMING DEAN AT COFC - GRANT WRITING / FUNDING

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| <b>\$135,000</b>        | (ongoing funding) COMPASS (COMputing Professionals And Student Scholar) Partnerships with industry (Capgemini, Bosch, Boeing, Mercedes, Benefitfocus, CAI, Booz Allen Hamilton) to financially support the Computer Science department. 2017-Present |
| <b>\$499,999</b>        | <i>(not funded) Co-PI on NSF Grant: "SFS: Capacity: Putting the GENI in the box: Building a sustainable cybersecurity based graduate learning community." Along with Xenia Mountrouidou (PI) and Aspen Olmsted (Co-PI) 2018.</i>                     |
| <b>\$60,000</b>         | (funded) Worked with Cathy Mahon in Institutional Advancement to establish the Robbie Cushing Computing in the Arts Research Assistant endowment. 2016.  |
| <b>\$25,000</b>         | (funded) Co-authored (with Junkun Ma) proposal to the American Association of Drilling Engineers (AADE) to support the Engineering Technology - Energy curriculum innovation. 2015.  |
| <b>\$2,500,000</b>      | (funded) Assisted the Dean and President in securing \$2,500,000 from the Louisiana Economic Development (LED) state agency to support computing programs at Southeastern starting in 2016. (Co-authored proposal and presented it to LED.)          |
| <b>\$5K (annually)</b>  | (funded) Secured an <i>annual</i> sponsorship for the Computer Science Programming Team year-round initiative. Sponsored by Geocent. Secured along with John Burris. Established in 2014.  |
| <b>\$2,500</b>          | (funded) Sponsorship of RoboFit: Robotics and Computing Summer Camp 2014 by Dow Chemical.  |
| <b>\$1,000</b>          | (funded) Ameritas Technologies sponsors first annual "Programming Bee." Funds secured by John Burris and Sebastian van Delden. 2013  |
| <b>\$3,600</b>          | (funded) With Kuo-Pao Yang and Ghassan Alkadi. Taking Southeastern's Robotics Summer Camp to new Heights: UAV Aerial Multicopters. Southeastern Office of Technology, 2013.  |
| <b>\$1,500</b>          | (funded) Maritime Museum Lighthouse Project. Funds used to support a student team that designed and implemented a solar-powered web camera system connected to the internet via a mobile hotspot at the lighthouse on Lake Pontchartrain. 2013       |
| <b>\$10K (annually)</b> | (funded) Secured an <i>annual</i> sponsorship for the Engineering Technology Senior Design Project program from Laitram. Established in 2013.  |
| <b>\$1,000</b>          | (funded) Sponsorship of Robotics and Computing Summer Camp 2013 by Geocent.  |



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| <b>\$5,000</b>        | (funded) With Kuo-Pao Yang and Ghassan Alkadi. Robotics Summer Camps. Southeastern Office of Technology, 2013.   |
| <b>\$4,000</b>        | (not funded) Robotic 3D Contour Tracking using the Microsoft Kinect. Supervised Undergraduate Research Experiences (SURE) - A Program for Women and Underrepresented Minorities in STEM Disciplines. LA EPSCoR, 2013   |
| <b>\$1,800</b>        | SGA Department Grant. Funding used to improve Computer Science and OSHE labs, 2012.  |
| <b>\$13,745</b>       | (funded) Projector System for the Occupational Safety, Health and Environment Degree Program (Anzalone 215). Southeastern Office of Technology, 2012   |
| <b>\$2,500</b>        | (funded) Extending a Natural Human-Robot Interface to Three Dimensional Contour Following. South Carolina Research Foundation. January-July, 2012.   |
| <b>\$2,000</b>        | (funded) Financial Support of Undergraduate Robotics Research at USC Upstate. Upstate Workforce Investment Board. 2011.  |
| <b>\$223,747</b>      | (not funded) Research Experience for Undergraduates, National Science Foundation, 2011-2013.   |
| <b>\$30,000</b>       | (funded) Financial Support of Undergraduate Robotics Research at USC Upstate. SEW Eurodrive. 2010-2014.  |
| <b>\$137,800</b>      | (funded) Equipment Donations/Grants at USC Upstate: Summary: Adept 550 4-dof robotic arm with extra motors and amplifiers, \$32,000, J&J Industrial Services Inc., 2010; Fanuc 6 dof robotic arm, \$32,000, SEW Eurodrive, 2010; Adept 550 robotic arm, \$25,000, J&J Industrial Services Inc., 2009; Automotive components, \$300, Dixie Too Auto Parts, 2008; RS20 4 dof robotic arm, \$23,500, Stäubli Corporation, 2007; Adept 550 robotic arm, \$25,000, J&J Industrial Services Inc., 2007; Several laptops donated to robotics lab, value not accessed, Automation Engineering Corporation. |
| <b>\$14,530</b>       | (funded) Initial Exploration of New Construction and Inferencing Algorithms for BMW's Vehicle-Configuration Expert-System, BMW's IT Research Center. 2007-2008.  |
| <b>\$2,967</b>        | (funded) Robotic 3D Construction of Unknown Surfaces. South Carolina Research Foundation. 2008.  |
| <b>\$7000</b>         | (funded) <i>Robotics at USC Upstate</i> , Research and Productivity Scholarship (R&PS), Columbia, South Carolina. 2005.  |
| <b>\$6,100</b>        | (funded) <i>Linking a Syntactic Partial Parse to Semantic Verb Predicates</i> , Research and Productivity Scholarship (R&PS), Columbia, South Carolina. 2004-2005.   |
| <b>\$501,469</b>      | (not funded) <i>Peeping with Peepers: Bringing the Natural World into the Classroom with Technology and Robotics</i> . U.S. Department of Education. (CO-PI). 2010.  |
| <b>\$149,611</b>      | (not funded) <i>Automating a Computer Science Curriculum</i> , National Science Foundation (NSF) – Course, Curriculum, and Lab Improvement (CCLI) Program, 2006.   |
| <b>\$10,448</b>       | (not funded) <i>Integration of Camera Space Manipulation and End Effector Design</i> , Oak Ridge Associated Universities Ralph E. Powe Junior Faculty Enhancement Awards. (CO-PI). 2005.   |
| <b>\$20,000 (est)</b> | (funded) The Upstate Make IT Happen Camp. 2012, 2011, 2010. Sponsored by IT-ology.   |
| <b>\$500,000</b>      | (not funded - decision suspended) Proposal to name the “JM Smith Foundation Mathematics and Computer Science Wing.” Funds to establish innovation fund, remodel tutoring labs, and update lab hardware/software. Coauthored and presented proposal with Bea Smith in University Advancement and Jerome Lewis.  |
| <b>\$61,706</b>       | (funded) Private sponsorships and grants to support the annual research symposium, summer robotics camps, and annual research journal: \$8,000 est (2011), \$11,000 est (2011), \$7,000 est (2010), \$14,500 (2009); \$15,706 (2008), \$5,500 (2007).  |
| <b>\$25,000</b>       | (funded) Established a Faculty Release Time Program for the newly created Office of Sponsored Awards and Research Support. Funded by USC Columbia. 2008.   |

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| <b>\$23,460</b> | (funded) Established a Research Experience Program for USC Upstate students with the Orthopaedic Research Foundation of the Carolinas, 2008, 2009, 2010. |
| <b>\$15,000</b> | (not funded) "Mom and Me Industrial Robotics Summer Camp" for 2010 and 2011. Microsoft Research and NCWIT.   |
| <b>\$925</b>    | (funded) Funds used to purchase cameras, rock crawler, and robotic arm kit for the "Peepers" robotics exploration project. (CO-PI), 2009.                |
| <b>\$9,750</b>  | (funded) Robotics Lab IT Infrastructure upgrade, 2009.   |
| <b>\$3,383</b>  | (funded) A Natural Language Approach to Manipulator Jogging, Research Incentive Award from the Research Advisory Council. Research Grant. 2007.          |
| -               | Numerous internal Teaching and Productive Scholarship (TAPS) grants.   |

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### NOTABLE AWARDS AND HONORS

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- **2018 Charleston County Economic Development Ambassador**
  - o Award presented by the Charleston County Economic Development Office
- **CofC Admissions Volunteer of the Year**
  - o 2017, Award presented by Heather Chipley at the Parent's Advisory Council Meeting
- **Rookie of the Year – Rotary Club of Charleston - Breakfast**
  - o 2016, Award presented by Silvia Rivers, 2015-2016 Club President.
- **Nominated for the SC Governor's 2011 Award for Excellence in Scientific Awareness.**
  - o 2011, Nominated by Dr. Neval Erturk, Chair of Biology Department at Converse College.
- **USC System Featured Scholar of the Month**
  - o February 2012, Featured on the USC main campus website.
- **Keynote Speaker at the 2011 SC Junior Academy of Science Fall Workshop**
  - o 2011, A workshop that stimulates high school kids' interests in math and science .
- **Bank of America Excellence in Teaching and Advising Award**
  - o 2011, Recognizes an individual who has distinguished himself/herself with teaching and advising activities during the preceding year.
- **USC Upstate Annual Award to Faculty for Scholarly and/or Creative Pursuits**
  - o 2007, Recognizes an individual who has distinguished himself/herself by scholarly or creative activities during the preceding year.
- **Vice Chancellor's Leadership Award**
  - o 2007, Recognizes an individual who has demonstrated exceptional leadership, dedication and service.
- **Student Mentored Research Awards**
  - o **Best Paper** Award in Math and Computer Science, 2011, at the Seventh Annual Upstate Research Symposium, Spartanburg, South Carolina, Michael Umrysh, research assistant.
  - o **Best Poster** Award in Computer Science and Engineering, 2010, at Discovery Day, Columbia, South Carolina, Nicole Tobias, research assistant.

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### TEACHING EXPERIENCE

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#### AT THE COLLEGE OF CHARLESTON (2015-PRESENT):

CSCI 215 Website Programming, CSCI 230 Data Structures, CSCI 310 Advanced Algorithm Design, CSCI 350 Computer Organization and Digital Logic, CSCI 392 Computing in Society,

CSCI 399 Tutorial, CSCI 462 Software Engineering Practicum, DATA 495 Data Science Capstone, CSIS 604 Distributed Systems (graduate level).

**AT SOUTHEASTERN LOUISIANA UNIVERSITY (2012-2015):**

CMPS 161 Algorithm Design and Implementation I, CMPS 280 Algorithm Design and Implementation II, CMPS 390 Data Structures, CMPS 470 Machine Learning, CMPS 491 Special Topics, CMPS 570 Machine Learning (graduate level), CMPS 591 Special Topics (graduate level), SE 101.

**AT UNIVERSITY OF SOUTH CAROLINA UPSTATE (2004-2012):**

SCSC 585 Introduction to Computer Vision, SCSC 580 Introduction to Artificial Intelligence, SCSC 530 Programming Language Structures, SCSC 509 Topics in Computer Science, SCSC 499 Directed Research, SCSC 450 E-business Web Application Development, SCSC 441 Experiential Learning (field internship), SCSC 399 Independent Study, SCSC 321 Advanced Data Structures, SCSC 314 Introduction to Robotics, SCSC 300 Computer Science II, SCSC 241 Advanced Algorithm Design, SCSC 200 Computer Science I, SCSC 150 Introduction to Computer Science, SCSC 141 Elementary Algorithms.

- Established an “Automation” focus area in the Computer Information Systems degree program, which is a collaboration between the departments of: Computer Science, Business, and Engineering Technology Management.
- Introduced 3 new courses (2005) and had the leadership role in revamping the undergraduate CS and CIS degree programs (2004-2005).
- Established robotics internships with several businesses in the area.
- Wrote and presented proposal to establish an Undergraduate Research Lab for the Division of Math and Computer Science. The lab was established in 2005 and has been used heavily by numerous students and faculty since that time.

**AT THE UNIVERSITY OF CENTRAL FLORIDA (2000-2003):**

CAP6640 Natural Language Understanding (graduate level), CAP5636 Advanced Artificial Intelligence (graduate level), CAP4630 Introduction to Artificial Intelligence, COP3530 Computer Science III, CGS3175 Internet Applications, COT3100 Introduction to Discrete Structures, CGS2100 Fundamentals of Business Computer Science, CGS1060 Introduction to Computer Science (Teaching Assistant only).

**AT THE SPARTANBURG DAY SCHOOL (MIDDLE SCHOOL ROBOTICS PROGRAM, 2011-2012):**

Designed and taught a *year-long* robotics course for the 8th grade – two sections, thirty four students in total. This course included a combination of programming and mobile/industrial robotics theoretical information and hands-on activities.

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## NOTABLE SERVICE

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### AT THE COLLEGE OF CHARLESTON:

- **Hollings Marine Lab Executive Board**
  - 2018-Present
- **SC Sea Grant Consortium Board of Directors**
  - 2018-Present (President's proxy)
  - Played key role in the Coastal Resiliency Hackathon hosted by Boomtown.
- **SCRA Industry 4.0 Feasibility Assessment Team**
  - Represented the College of Charleston on this state-wide effort in 2018.
- **Charleston Digital Corridor - Foundation**
  - Advisory Board Member 2017-Present
- **Center for Israel Studies**
  - Taskforce Member to develop the Center (2018)
- **Chair of the Council of Chairs and Undergraduate Program Directors**
  - Liaison between Chairs and various other constituencies. 2016-2018
  - Introduced a Chair Mentorship Program, a Chairs Retreat Event and a memorandum on assessment practices to the Provost.
- **Competitive Programming**
  - **ACM ICPC Programming Competition – Team Coach**
    - In 2015, won Division II against 61 other teams in the Southeast Region, USA.
    - In 2016, placed 5<sup>th</sup> out of 76 teams
  - **Annual High School Programming Competition**
    - Coordinated the 34<sup>th</sup> Meeting: 60 students from NC, GA, and SC
    - Coordinated the 35<sup>th</sup> Meeting: 54 students from NC and SC
  - **Jam Sessions**
    - Advise the ACM Club and introduced bi-weekly, internal Competitive Programming Jam Sessions for CofC students.
  - **Bishop England High School**
    - Team Coach (Spring 2017)
- **MUSC Health Informatics Masters Program**
  - Advisory Board Member (2015-Present).
- **CIO Search Committee** (2016)
- **Faculty Advisor** for high school Senior Theses at Academic Magnet High School

### AT SOUTHEASTERN LOUISIANA UNIVERSITY:

- **QEP Committee:** Help to develop QEP proposal for SACS reaccreditation.
- Established the Southeastern Student Chapter of the American Association of Drilling Engineers (**AADE**) in Spring 2014 and served as Faculty Advisor.

## AT USC UPSTATE:

- **Faculty Governance:** Faculty Grievance Committee (2011-2012), Faculty Senate (2006-2009); Student Affairs (2005-2008, Chair all three years); Faculty Advisory (2007-2008); Served as Juror on Honors Court Hearings (3 hearings in total, Chaired 2 hearings).
- **Peer Review Committees:** (first voting, review committee in the Promotion and Tenure process) Division of Math and Computer Science (2009-2012, Chair 2010-2011, 2011-2012); Department of Language, Literature, and Composition (2009-2010, 2010-2011); Library (2010-2011).
- **Faculty Search Committees:** Division of Math and Computer Science (2010, 2006, Chair in 2005, 2004 2x); Division of Natural Science and Engineering (2009); Department of Language Literature and Composition (2010, 2009, 2008).
- **Executive Search Committees:** Senior Vice Chancellor of Academic Affairs (2008); Assistant Vice Chancellor for Student Success (2008).
- **USC Columbia Office of Undergraduate Research:** 2008-Present. Advisory Board Member and grant reviewer.
- **Miscellaneous:** Global Curriculum Committee (2010-2012); Teaching and Learning with Technology Advisory Group (2008-Present), Organizing Committee member for a Chapter of Alpha Sigma Lambda at USC Upstate (2005-2007); member of the Foundations of Excellence First Year Initiative Advisory Board (2007); Research Advisory Council member (2005-2007); member of the Student Success Team (2005-2006); advise approximately 20 computer science majors each semester; Computer Science Library Liaison (2004-2007); MCS Technology Committee (2004-2007).

## COMMUNITY SERVICE IN CHARLESTON SOUTH CAROLINA:

- **Rotary Club of Charleston (Breakfast club)**
  - Club Officer on the Board:
    - President-Elect: 2020-Present
    - Secretary: 2019-2020
    - Chair of Public Relations: 2017-2019
  - Co-webmaster since 2016
  - Member since 2015
- Bishop England Career Day Presentations and Demonstrations in 2016, 2017, 2018, 2019.
- Drone Robotics demonstrations to 120 girls in the **Girl Scouts** (2016)
- Stäubli Robot and Drone demonstration and program for the Charleston County Library (2017)

## COMMUNITY SERVICE IN LOUISIANA:

- **Rotary Club of Hammond**
  - Member 2013-2015
  - Graduate of the Rotary Leadership Institute
- Webmaster for the Louisiana Academy of Science, 2014-2015
- In 2013, established a **Robotics and Computing Summer Camp** for middle and high school students.
  - Extended this initiative to include the Kinesiology department in 2014 so that the students did computing/robotics as well as health and fitness activities.

- In 2012 and 2013, assisted with the **Harvest Cup Polo** setup/breakdown for the Junior League of Covington.
- High/Middle School Robotics/STEM Talks and Demonstrations. 2012-2015. Schools visited include Live Oak High, Rollins Elementary, Glasgow Middle, Hammond High.

### **COMMUNITY SERVICE IN UPSTATE SOUTH CAROLINA:**

- **High/Middle School Robotics Talks and Demonstrations.** 2008-2012. Schools visited include: Carver Junior High Career day, Spartanburg Regional Childcare, Landrum Middle, Landrum High, D. R. Hill Middle, Homeschooled groups, Several Girl Scout Troops, Woodruff High, Woodruff Middle, Chapman High, Spartanburg Day School, Cleveland Elementary, Southside High, Montessori Academy, West View Elementary, Daniel Morgan Technology Center. Over 1500 students visited.
- **Robotics Summer Camps.** 2009-2012. Partnered with the Spartanburg Science Center, SEW Eurodrive, the Upstate Workforce Investment Board, and others to offer low-cost summer robotics camps targeting students who live under the poverty level.
- **Spartanburg Day School Robotics Program.** 2011-2012. Develop and implement a 8<sup>th</sup> grade robotics program. Also helped to secure a robotic arm donation to the Day School from Stäubli.
- **Boy Scouts Robotics Merit Badge.** 2011. Taught a three night robotics course for 12-16 year old boy scouts so that they achieve a Robotics Merit Badge.
- **IT-Ology Partner**
  - Coordinator/Organizer, Make IT Happen Camp. 2010, 2011, 2012. This camp is sponsored by IT-ology (the SC Consortium for Enterprise System Management). High schools kids get do programming and other activities on a laptop that they get to keep after the event. About 20-25 kids accepted each year.
  - Palmetto Pillar Award Judge. Reviewed 30+ applications from SC businesses.
- **North Spartanburg Rotary Club Member (2007-2010)**
  - Vocational Service Chair (2008-2010). The Rotary Club participates in a variety of civic engagement activities.